DEFINABLE RADIO AND METHOD OF OPERATING A WIRELESS NETWORK OF SAME

ABSTRACT OF THE DISCLOSURE

A wireless network (100) includes a number of definable radio systems (102) in communication with one another via a wideband backbone (108). Each of the systems (102) includes a first software programmable transceiver (200) for extra-network communication using a narrowband channel defined by a radio frequency capability (106). Each of the radios (102) further includes a second transceiver for intra-network communication using wideband backbone (108). Methods for operating the network (100) enable the radios (102) to engage in communication over narrowband channels to carry a signal between multiple radios (102) and an extra-network location, and for communicating the signal as distinct bitstreams between the radios (102) and another of the radios (102) using the wideband backbone (108). In addition, methods enable the radios (102) to monitor multiple external networks concurrently by having each of the radios (102) use a different RF capability (106), and to combine their independently received signals to improve performance and suppress interference.